Bandwidth

• The bandwidth of a communications channel determines its capacity to transmit data—it’s analogous to the size of plumbing pipes (10MB, 100MB, 1GB, 10GB)

• Analog signals may contain independent waveforms of various frequencies

• The number of frequencies supported by a channel determines its bandwidth

• The bandwidth of a digital channel is usually measured in bits per second (bps)

Sending Information

* When you transmit data, it is broken up into small pieces called packets
* A packet is a parcel of data that is sent across a network
  + Has the address of its sender
  + Has the address of the destination
  + Has some data
* When packets reach their ultimate destination, they are put back together into the data that was originally transmitted

Data can be sent in two ways:

* Synchronous protocols
* Asynchronous protocols
* Packet Switching
  + The message is made of separate data packets, each addressed to the destination
  + Packets are transmitted over any available connection to the destination
  + The receiving node reassembles the message
* Repeaters
  + boost the signal strength over transmission medium
* Bridges
  + isolate LANs from unnecessary traffic, but connect LANs to neighboring networks